REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-10 are pending in the present application. Claims 1-7 are amended and Claims 8-10 are added by the present amendment without adding new matter.

In the outstanding Office Action, the Examiner requested copies and a statement of relevancy of four references listed in an Information Disclosure Statement (IDS) filed on August 13, 2004; Claims 1-6 were rejected under 35 U.S.C. § 103(a) as unpatentable over Japanese Patent Application JP 2-16166 A (herein "Konica") and Japanese Patent Application JP 9-38401 A (herein "Organo"); and Claim 7 was rejected under 35 U.S.C. § 103(a) as unpatentable over Konica, Organo, and Flosdorf et al. (U.S. Patent No. 2,608,472, herein "Flosdorf").

Applicants thank the Examiner for the courtesy of an interview extended to Applicants' representative on May 24, 2005. During the interview, the differences between the claims and the applied art were discussed. Further, clarifying claim amendments, similar to those presented herewith, were also discussed. No agreement was reached, pending the Examiner's detailed consideration of the claim amendments upon formal submission. Arguments presented during the interview are reiterated below.

Regarding the request for providing a copy of the four references noted in the outstanding Office Action, as clarified during the interview, the PTO did not scan the International Search Report and the European Search Report filed with those four references on January 5, and August 13, 2004. Thus, as agreed during the interview, copies of the International Search Report and the European Search Report and each PTO-1449 form filed with the corresponding Information Disclosure Statements are provided herewith for the

Examiner's convenience. Applicants further note that the references required by the outstanding Office Action are available under the PAIR system and thus, a copy of those references is not provided. However, a machine translation of the Organo reference is enclosed herewith.

Regarding the rejection of Claims 1-6 under 35 U.S.C. § 103(a) as unpatentable over Konica and Organo, Applicants respectfully traverse that rejection for the following reasons.

Initially, Claims 1-6 have been amended to better comply with U.S. claim drafting practice. In addition, independent Claim 1 has been amended to more clearly recite that both the evaporation roller and the precipitation roller are installed in a housing. The claim amendments find support in Figure 1 and its corresponding description in the specification.

Briefly recapitulating, amended independent Claim 1 is directed to a device for refining an evaporable or sublimable solid material and the device includes a housing, at least one rotatable evaporation roller, and at least one rotatable precipitation roller. Both the evaporation roller and the precipitation roller are installed in the housing. In a non-limiting example, Figure 1 shows the device having the housing 1, the evaporation roller 22, and the precipitation roller 32.

Turning to the applied art, Konica shows in Figure 1 a device having only one rotatable roller 6 which appears from the figure to be a precipitation rotatable roller because the roller 6 has a scraping blade 4 that scrapes the apparently precipitated material from the roller 6. However, as discussed during the interview, Konica does not teach or suggest at least one rotatable evaporation roller that evaporates a substance, and that both the evaporation and the precipitation rollers are installed in a housing, as required by amended Claim 1.

The outstanding Office Action relies on Organo for teaching a device that has a roller 3, presumably an evaporation roller.[1] However, as discussed during the interview, Organo shows in Figure 1 that the roller 3 is a precipitation roller, that corresponds to the precipitation roller 6 of Konica because the roller 3 of Organo also appears to have a scraping blade 7 for scraping the material precipitated on the roller.

Further, the device of Organo treats waste water, for which a solidification treatment is performed by heating, concentrating, and solidifying nonvolatile contents contained in the waste water. Thus, the goal of the Organo device is to remove a solvent (mainly water) from a solution or a dispersion so as to separate the nonvolatile components only. Accordingly, the discharged solid in Organo is not a refined solid, but simply a dried solid. Although the outstanding Office Action asserts a similarity in the structure of the claimed device and the Organo device, i.e., a heated drum scoops up the liquid to be treated, the evaporated component in Organo is a solvent or a dispersion medium such as water, and not the subject material to be refined as in Claim 1. Further, the solid to be discharged in Organo is not particularly refined. Accordingly, it is respectfully submitted that the Organo device uses techniques different from the high level refining techniques used by the device of Claim 1.

In addition, Applicants respectfully submit that, even if the combination of Konica and Organo is proper, both references teach a precipitation roller that works without a separate evaporation roller, and thus, the artisan would not be motivated to add a separate evaporation roller to the devices of Konica and Organo, as required by Claim 1.

Further, Applicants respectfully traverse the obviousness rejection based on the combination of Konica and Organo because there is no evidence for a motivation to modify the references to achieve the claimed device. While the required evidence of motivation to

[1] Applicants say presumably because the outstanding Office Action at numbered paragraph 4 does not identify which elements of Organo correspond to the claimed elements.

combine need not come from the applied references themselves, the evidence must come from *somewhere* within the record.[2] In this case, the record does not support the proposed modification of the Konica system.

Accordingly, it is respectfully submitted that independent Claim 1 and each of the claims depending therefrom patentably distinguish over Konica and Organo, either alone or in combination.

Regarding Claim 5, Konica shows in Figure 1 that the drum 6 is in direct contact with the blade 4. However, Claim 5 recites that "there is a space between a surface of the precipitation roller and a forward end of the scraping unit." Thus, the device of Claim 5 advantageously prevents the formation of dust due to the blade directly scraping the drum, which enhances the purity of the refined material.

Regarding the rejection of Claim 7 under 35 U.S.C. § 103(a) as unpatentable over Konica, Organo, and Flosdorf, that rejection is respectfully traversed for the following reasons.

Independent Claim 7 is a method claim that corresponds to device Claim 1 discussed above. As discussed above regarding Claim 1, the combination of Konica and Organo does not teach or suggest the features of Claim 1. In addition, Konica shows in Figure 1 a large-size recovery section 7 but does not teach or suggest that the device can be run continuously. On the contrary, the method of Claim 7 is capable of continuously feeding the material to the device and also intermediately taking out the refined product from the device while the inside of the housing is kept at a reduced pressure. Thus, the combination of Konica and Organo,

[2] In re Lee, 277 F.3d 1338, 1343-4, 61 USPQ2d 1430 (Fed. Cir. 2002) ("The factual inquiry whether to combine references ... must be based on objective evidence of record. ... [The] factual question of motivation ... cannot be resolved on subjective belief and unknown authority. ... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion").

besides that it is improper as noted above, also does not teach or suggest the features of Claim 7.

Further, Flosdorf does not overcome the deficiencies of Konica and Organo discussed above, i.e., both the evaporation and the precipitation rollers are installed in a housing.

Flosdorf discloses a technique that refines a material by sublimation. Namely, the raw material is evaporated on a vaporizing cylinder 10 and the refined material is deposited on a condensing cylinder 19. However, the method of Claim 7 is different from Flosdorf in the following points. First, a filter element 16 in Flosdorf exists between the vaporizing cylinder 10 and the condensing cylinder 19. Thus, at least for this reason Flosdorf is different from Claim 7.

Further, the productivity by way of sublimation tends to lower if the two cylinders are disposed at a large distance as in Flosdorf. This is attributable to the fact that the transfer of the vapor of material is governed by diffusion, especially under reduced pressure, and this tendency becomes significant as the molecular weight of the material to be refined increases. Thus, the increase of the molecular weight results in the increase of the weight of the vapor, which determines a reduced productivity also due to the increase of the distance between the two cylinders. If a partitioning element of a filter is also present as in Flosdorf, the above noted disadvantage becomes more severe.

Furthermore, the condensing cylinder 29 in Flosdorf is provided with a sweeper 20, and crystals deposited on the cylinder 29 are scraped by the sweeper 20 and fall into a receiving hopper 24 to be stored. Accordingly, there is a possibility in Flosdorf that the dust from the rotational axis of the sweeper 20 may fall in the receiving hopper 24, thus decreasing the purity of the refined material.

On the contrary, according to Claim 7, the rotational axis of the precipitation roller is arranged inside the housing, and impurities formed by dusting fall only in a retention part of the crude materials. Particularly, under reduced pressure, the dust hardly fall in a storage section 51 on which refined solids fall (including a crystal guide wall 61).

Further, by using the claimed arrangement, a high level of refining and a high productivity is achieved. In addition, it becomes possible to arrange the rotational axis as a dust-generating element close to the raw materials, and the inclusion of the impurities into the refined material can be reduced to a low level. In the conventional art, a refined material can be obtained only by using large scale sublimation and refining facilities, used sequentially (batch system). However, since the operation is made sequentially, a highly refined product is hardly obtained, and it is impossible to obtain continuously such a product. In the present invention a continuous, long time operation, can be made and a high level of refining can be maintained.

Accordingly, it is respectfully submitted that independent Claim 7 patentably distinguishes over Konica, Organo, and Flosdorf, either alone or in combination.

In addition, new Claims 8-10 have been added to set forth the invention in a varying scope and Applicants submit the new claims are supported by the originally filed specification. In particular, new Claims 8-10 depend from independent Claim 1. Thus, it is respectfully submitted new Claims 8-10 are allowable as they depend from independent Claim 1.

Applicants respectfully submit that a full English translation of Konica and Organo should be provided by a next Office Action according to MPEP § 706.02 II if PTO still relies on these references.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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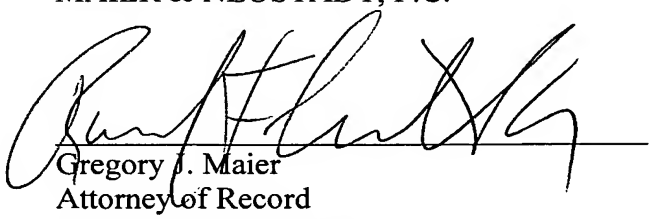

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